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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/652,376	08/31/2000	Arun Kumar Sinha	U 012930	4436

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26 WEST 61ST STREET  
NEW YORK, NY 10023

EXAMINER

KEYS, ROSALYND ANN

ART UNIT	PAPER NUMBER
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1621

DATE MAILED: 02/14/2003

12

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/652,376

Applicant(s)

SINHA, ARUN KUMAR

Examiner

Rosalynd Keys

Art Unit

1621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 December 2002.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 August 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

***Status of Claims***

1. Claims 1-7 are pending.  
Claims 1-7 are rejected.  
Claims 8-12 are canceled.

***Information Disclosure Statement***

2. See Paper No. 7.

***Drawings***

3. See Paper No. 7.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
6. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Devgan and Bokadia (Aust. J. Chem., 1968, 21, 3001-3003) in view of March (Advanced Organic Chemistry: Reactions, Mechanisms, and Structure, third edition,

Art Unit: 1621

1985, pp. 691-700 and 1093-1096), for the reasons given in the previous office action, Paper No. 10.

### ***Response to Amendment***

#### **Claim Objections**

7. The objection to claim 1 is withdrawn, due to the amendment to claim 1.

### ***Response to Arguments***

8. Applicants' arguments filed December 9, 2002 have been fully considered but they are not persuasive.

The Applicants' argue that Devgan et al. do not teach or suggest  $\beta$ -asarone or the toxicity problem associated with  $\beta$ -asarone. The Examiner disagrees that Devgan et al. do not teach or suggest  $\beta$ -asarone. In fact, Devgan et al. not only disclose  $\beta$ -asarone, but teach that  $\beta$ -asarone is an isomer of  $\gamma$ -asarone and that their dihydro derivatives have identical u.v. and i.r. spectra. Thus, Devgan et al. at least suggest the dihydro derivative of  $\beta$ -asarone, which would lead one having ordinary skill in the art to believe that one can obtain the dihydro derivative of  $\beta$ -asarone.

The Applicants' argue that Devgan et al. not teach or suggest the toxicity problem that the applicants claim are associated with  $\beta$ -asarone. This argument is not persuasive because while Devgan et al. do not show a specific recognition of the reduction of toxicity obtained by hydrogenating  $\beta$ -asarone, its discovery by Applicants is

tantamount only to finding a property that would naturally result from the old process, i.e., the process taught by Devgan et al.

The Applicants' statement that the Examiner admits that the Devgan et al. reference does not teach or suggest the temperature and pressure range for the process defined in the present application is incorrect. In the previous office action, the Examiner directed the Applicants' attention to the second full paragraph of Devgan et al. on page 3003 under the heading Dihydro- $\gamma$ -asarone (II), which discloses a temperature and pressure within the claimed range. The Examiner does rely on March to show that the temperature and pressure ranges disclosed in Devgan et al. as well as the temperature and pressure ranges disclosed in the instant claim 1 are within the recommended hydrogenation temperature and pressure range of March.

The Applicants' argue that March does not describe a pressure range of 10-40 psi as defined in the process. The Examiner disagrees. March teaches on page 693 that hydrogenation of double bonds in most cases requires pressures just above atmospheric. This pressure range falls within the instant pressure range of 10-40 psi (0.68-2.72 atm).

The Applicants' argue that March does not specify which double bonds are more resistant and require higher pressure. The Examiner disagrees. In Table 2 on page 1093 March discloses that an alkene is easier to reduce than an aromatic ring. Thus, the skilled artisan would reasonably believe that a benzene ring would require a higher hydrogenation temperature and/or pressure than propene.

The Applicants' argue that the temperature range described in the March reference is too broad of a range to determine a temperature range useful for hydrogenation of alkenes as substituents on an aromatic ring. The Examiner disagrees that this range is too broad. Nonetheless, Devgan et al. disclose a temperature and pressure are suitable.

The Applicants' argue that March does not further specify a temperature range, which would selectively reduce an alkene attached as a substituent on an aromatic ring. The Examiner disagrees. On page 1093, March teach that it is often necessary to reduce one group in a molecule without affecting another reducible group. On this same page March shows that an alkene group is easier to reduce by catalytic hydrogenation than an aromatic group. Thus, March implicitly teaches that if one has a molecule containing both an alkene group and an aromatic ring that one can selectively reduce the alkene group without also reducing the aromatic ring.

Further, the Applicants state that March disclose only hydrogenation of linear alkenes and alkynes. The Examiner disagrees. The teaching in March applies to double and triple bonds whether they are located in a linear compound or a cyclic compound. See for example Table 2 on page 1093, which discloses hydrogenation of linear as well as aromatic compounds.

For the reasons listed above, the Examiner believes that the instant invention is unpatentable over Devgan et al. in view of March. Thus, the rejection of claims 1-7 under 35 U.S.C. 103(a) as being unpatentable over Devgan and Bokadia in view of March is maintained.

Further, the Examiner believes that the teachings of Devgan et al. suggests the claimed invention, since the same method taught by Devgan et al. for hydrogenating  $\gamma$ -asarone was also known in art for hydrogenating  $\beta$ -asarone. See page 669 of the article by Patra et al. in the Journal of Natural Products, Volume 44, No. 6, Nov-Dec, 1981, which teaches hydrogenation of  $\beta$ -asarone (cis-asarone) in the presence of Pd-C in ethanol to obtain the dihydro derivative. A copy of the article is attached to this office action.

### ***Conclusion***

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rosalynd Keys whose telephone number is 703-308-

Art Unit: 1621

4633. The examiner can normally be reached on M and F 3:00-8:00 pm and T-R 5:30-10:30 am.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on 703-308-4532. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9307 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1235.

*R. Keys*

R. Keys  
February 13, 2003

*Rosalynnd Keys*

Rosalynnd Keys  
Primary Examiner  
Art Unit 1621